AQS Technical Note – NAAQS Reporting Issues for NO\textsubscript{2} and SO\textsubscript{2}  
NCore Reporting Issues for NO\textsubscript{y} and trace-level gases  
November 3, 2010

**Background:** Over the past year, EPA has finalized changes to the NAAQS for NO\textsubscript{2} (75 FR 6474, February 9, 2010) and SO\textsubscript{2} (75 FR 35520, June 22, 2010). Revisions have also been made to the associated ambient monitoring and data reporting requirements. This Technical Note provides additional details concerning the impact of these changes on AQS reporting procedures. Although many monitoring agencies have already successfully instituted these changes into reporting procedures, this note is being distributed to provide a more concise reference for certain questions that OAQPS continues to receive about these issues.

Additionally, EPA is working with agencies to implement the NCore multi-pollutant network by January 1, 2011. In this note, we are clarifying the reporting of parameters arising from the required NO\textsubscript{y} instrument. We are also reaffirming the importance of reporting required trace-level gas measurements utilizing the appropriate AQS method codes.

**NO\textsubscript{2} Reporting Changes (Appendix S to Part 50 – Interpretation of the Primary NAAQS for Oxides of Nitrogen)**  
Standard units of measurement have changed from parts per million to parts per billion. Note the language: *Hourly NO\textsubscript{2} measurements are to be reported to AQS in units of parts per billion (ppb), to at most one place after the decimal, with additional digits to the right being truncated with no further rounding.* We also reiterate that current reporting requirements in 40 CFR 58.16 require the reporting of NO, NO\textsubscript{2}, and NO\textsubscript{x} channels from NO\textsubscript{2} instruments.

**SO\textsubscript{2} Reporting Changes (Appendix T to Part 50 – Interpretation of the Primary NAAQS for Oxides of Sulfur)**  
Standard units of measurement have changed from parts per million to parts per billion. Note the language: *Hourly SO\textsubscript{2} measurements are to be reported to AQS in units of parts per billion (ppb), to at most one place after the decimal, with additional digits to the right being truncated with no further rounding.*

We also note the new reporting requirement in 40 CFR 58.16 to report the maximum 5-minute SO\textsubscript{2} block average of the twelve 5-minute averages in each hour, in addition to the hourly SO\textsubscript{2} average. Summarized below are some frequently asked questions about the 5-minute reporting requirement.

1. **When does the SO\textsubscript{2} 5-minute reporting requirement become effective?**  
   This reporting requirement became effective when the revised SO\textsubscript{2} NAAQS became effective, 60 days after publication in the Federal Register. This date was **August 23, 2010.**
2. What is the AQS reporting deadline for SO₂ 5-minute average data?
Data must be reported to AQS by the deadline noted in 40 CFR 58.16(b). For example, for the
data collected during the initial quarterly reporting period of August 23 – September 30, 2010, 5-
minute concentrations must be reported to AQS no later than 90 days after the end of that
quarterly reporting period.

3. What procedure should be used to report the maximum 5-minute average from each hour?
The AQS parameter code 42406 with a duration code of “1” should be used to report the
maximum 5-minute average from each hour. States have the option of reporting all of the twelve
5-minute averages from each hour using AQS parameter code 42401 with a duration code of
“H”. In this case, the maximum 5-minute average for each hour does not have to be identified
and separately reported.

NCore Reporting Requirements for NOy measurements

NCore sites must measure NOy (and report both NOy and NO concentrations) as part of the required
suite of measurements listed in section 3 of Appendix D to Part 58. NO measurements are reported
using AQS parameter code 42601 and NOy measurements are reported using AQS parameter code
42600. Although NOy instruments may provide for the reporting of a difference channel (i.e., NOy
minus NO [NOy-NO]), such a difference measurement is not considered to be an appropriate indicator
of NO₂ and should not be reported using the NO₂ parameter code. OAQPS has worked with the AQS
team to create a new parameter code, 42612, that is specific to the difference channel output from NOy
instruments. States that optionally wish to report this difference measurement should use the new
parameter code. Previous NOy – NO measurements that were erroneously reported as NO₂ (42602)
should be moved to the appropriate parameter code to prevent confusion among data users. Note that
standard units for NO (42601) and NOy (42600) parameter codes will be changed to ppb by the end of
2010.

NCore Reporting Requirements for trace-level gas measurements

The use of trace-level precursor gas measurements for CO, NO/NOy, and SO₂ is an essential part of the
NCore monitoring framework. Trace-level instruments provide an improved sensitivity together with
other performance advantages compared with “legacy” instruments that have been employed since the
1980’s. Due to these performance advantages and the desire among data users to segregate the resulting
ambient and quality assurance data from legacy instruments, a distinct set of trace-level method codes
has been made available for use in reporting these data. These method codes are summarized in the
table at the end of this document.

For additional information about this Technical Note, please contact Nealson Watkins at 919-541-
5522 or watkins.nealson@epa.gov.

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1 Reporting requirements noted in the section are also applicable to PAMS stations where NOy measurements are taking place.
2 Additional details on NOy measurements are available in section 4 of the Technical Assistance Document (TAD) for
Precursor Gas Measurements in the NCore Multi-pollutant Monitoring Network,
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